DWR's software allows staff to provide virtual online assistance in real time—both the person filling out the survey and the staff member can review the screen at the same time.

With each submittal cycle, the LWSP questionnaires have grown in sophistication. The 1989 data are skeletal, and summary statistics provide only system-consumption parameters. DWR is in the process of transitioning the submittal process to correspond with river basin modeling and to spread their plan reviews over five years (instead of requiring all plan submittals the same year). For the purpose of this study, researchers had access to electronic data from plans for 1989 (demand only), 1992, 1997, and 2002. The LWSPs for 2006–2007 are still under review and have not been completed. Portions of LWSP data from '97 and '02 can be found online at the DWR website; no data prior to '97 are available online. Each LWSP cycle has grown in the sophistication of information requested via online submittal. While originally submittals were hardcopy, now systems can submit their entire plans and supporting documents online.

After the plans are submitted for a particular round, DWR staff begin the review process. The surveys are designed with checks and balances throughout the questions to ensure accuracy of information wherever possible. Where answers do not match or are not complete, DWR staff provide a follow-up list of questions to the water system. This review process can take two or three iterations in some cases. When the process is complete, DWR sends a notification that the plan meets the statutory criteria. At that time, the local government formally adopts the plan, and it is considered final until the next cycle. Many systems never complete the process. Summary statistics are provided in the quantitative section regarding the percentage of plans that are deemed adopted, completed, or incomplete.

Methodology

Because the scope of the LWSP surveys changes with each cycle, few consistent parameters exist among the plans submitted in 1989, 1992, 1997, and 2002. The data requested during each survey cycle included municipal demand; however, even these data changed parameters from 1989 to 1992 when the surveys began to distinguish between average daily demand (ADD) and service area demand (SAD). ADD is the entire average daily water produced by a water-treatment facility or utility system, including water supplied to other systems. The SAD is that portion of the ADD used by the utility's own service area—including (but not limited to) the customers that receive water from a system or facility.

Two approaches (one qualitative, one quantitative) were used to analyze North Carolina's Local Water Supply Plans.

Quantitative Analysis

Sampling and data sources. With input from Don Rayno of DWR and Shadi Eskaf of the UNC School of Government's Environmental Finance Center, two primary parameters were determined to be useful for sampling: system size (service population) and system source (surface, ground-, or purchased water). Service population was requested beginning with the 1992 LWSPs. Systems that submitted LWSPs in 1997 and 2002 were asked to provide information on their supply sources (surface, ground-, and purchased). All systems from the 1997 and 2002 LWSP data were evaluated to determine the predominant source (> 50%) of supply: surface water, groundwater, and purchased